Under ignorance, information may be worth less than under risk with uniform probabilities (with high confidence). But this is similar to fact that information in latter case may be worth less than information under "much less uncertainty," i.e., non-uniform probabilities. (see Marschak).

Reason for former "paradox" is that, as Marschak shows, value of information need not be directly related to quantity of information. A message may convey "more information"--result in greater"reduction in uncertainty"--to person who assigned uniform probabilities than to one who did not (who was "less uncertain" to begin with), yet it may not be worth as much, depending on payoffs and structure of problem.

Similarly, IF WE COULD MEASURE UNCERTAINTY WHERE IGNORANCE IS INVOLVED (PRESUMABLY, WITH GIVEN "BEST GUESS" DISTRIBUTION, UNCERTAINTY MIGHT BE ASSUMED TO INCREASE AS   DECREASES), ~~information might~~ same message might convey "even more information" to person who assigned uniform probs with low confidence (   ) thanto one who assigned them with high confidence; it might "reduce uncertainty" even more; yet ~~it might have still lower value~~ information, in terms of the anticipated sorts of messages possible and their separate "values," might appear to have still less value. I might expect that message will reduce my uncertainty radically, yet have no confidence in any estimate in the likelihood that this reduction will be such as to improve my payoff.

Fact that under ambiguity, info may be worth less than under risk with uniform probs, is similar to fact that info in latter case may be worth less than info under "much less uncertainty": skewed probs.

β $\frac{1}{2}$ $\frac{1}{2}$

99 -1

0 0 $V_0 = 49$

$V_{\text{with info}}$: 49.5

V of info : .5

$\frac{1}{100}$ $\frac{99}{100}$

99 -1

0 0 $V_0 = 0$

$V_{\text{with info}}$ . .99

V_{info} : .99

$\frac{1}{10}$ $\frac{9}{10}$

99 -1 $V_0 = 9$

0 0

$\frac{1}{2}$ $\frac{1}{2}$

50 -50 $V_0 = 0$

0 0 $V_{\text{with info}}$ = 25

$\frac{1}{2}$ $\frac{1}{2}$

100 -50 $V_0 = 25$

0 V_{info} = 25

$\frac{1}{3}$ $\frac{2}{3}$

100 -50 $V_0 = 0$

0 0 $V_{w.i.} = 33\frac{1}{3}$

$\frac{1}{2}$ $\frac{1}{2}$

400 -100

0 0

$V_0 = 150$ $V_{w.i.} = 200$

$V_i = 50$

$\frac{1}{5}$ $\frac{4}{5}$

400 -100

0 0

$V_0 = 0$

$V_{w.i.} = 80$

Complete ignorance is not intuitively compatible with acting "as if" one event had an extremely low probability (e.g. $\frac{1}{n^2}$, or $\frac{1}{n^3}$, where n is no. of events) or extremely high prob $\left(\frac{n^2-1}{n^2}\right)$.

Events ~~that~~ whose prob is "too low" are excluded from problem. "Too low" means that range of payoffs to given actions under that event could not be great enough to make a difference to choice of action, given the upper limit on prob. of that event and the range of payoffs under other events.

To say that every one of 3 events has at least $\frac{1}{27}$ prob. is to say that an increase of 30 (or 50 or 100) in payoff under that event would outweigh a decrease of 1 in the payoff to each other event.

Strict minimax can lead to acting "as if" one ~~out~~ event (associated with minimal outcomes) were virtually certain; no improvement in payoffs to other events can outweigh the lower minima of some actions under that event. NO

0	0	Vo	0	0
-1	100		100	-1

Minimax regret can have same effect. (?)

-100	100		100	0		0
-99	1	→	99	99		-50
0	0		0	100		

0	0
10	-1
-1	10
0	0
-2	1
1	-2

Hurwicz: One can act as though 2 events were nearly certain.

(If two events have maximum and minimum, , ,)

Attaching $\rho > 0$ to $(\frac{1}{n}, \frac{1}{n}, \ldots \frac{1}{n})$ is equivalent to acting as if every event had at least $\frac{\rho}{n}$ probability (e.g. $\rho = \frac{1}{10}$; $(\frac{1}{10n}, \ldots \frac{1}{10n})$.

"Anything is a good bet at 100:1" — assuming you have no reason to assign $< \frac{1}{100}$ prob. (such as, belief that person offering the bet has highly reliable inside info; or, knowledge of 1000 "equally likely" exclusive events, such as other lottery tickets.

Not the same as saying, "Anything is a good bet at n:1," where n events are involved, none known to be more or less likely than the others. More like: "anything is good at n^a:1" where a = 2, 3, 4, 5 etc.

There is virtually always at least 1 event to which you would assign, say, at least $\frac{1}{1000}$ prob; in fact, if more than 3 events are relevant, there are usually at least 3 such events if outcome is uncertain at all; which would rule out strict Hurwicz α criterion applied to outcomes

(not applied to prob. dists; reasonable set can reflect this constraint